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ABSTRACT

The Open Subordination of Women Scale (OSW) is a 20-item Likert scale with four subscores for: restrictive policies, alleged inferiority, alleged narrowness, and alleged offensiveness. Students at Tennessee Technological University, 220 male and 198 female, volunteered to respond to this scale and to the California F-Scale of authoritarianism. The results of the study support the findings of a study performed twenty years ago. Male college students perceived women as being more deserving of a subordinate role than did female college students. Upper division (juniors and seniors) appeared to place women in a less subordinate role than did lower division students, but the differences were not statistically significant. Female students, regardless of major, perceived women in the same manner; but there was wide variation across major fields among males. Student majors were classified as: Education, Engineering, Science and Mathematics, Business, Social Sciences, and Humanities and English. In general, individuals who were more authoritarian in their beliefs perceived women to belong in a more subordinate role. (Author/CTM)

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ATTITUDES TOWARD WOMEN, COLLEGE MAJOR, AND AUTHORITARIANISM¹

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Two decades ago Nadler and Morrow (1959) summarized several sociological studies that indicated that women occupied a subordinate position in relation to men. In order to extend research that was available, they developed an instrument, the Open Subordination of Women Scale (OSW), for the purpose of investigating attitudes toward women of undergraduate students enrolled in psychology classes. They also studied the relationship of the level of authoritarianism exhibited by the group as measured by the California F-Scale with results from the administration of the OSW. Their work supported the hypothesis that there was a direct relationship between exhibited level of authoritarianism and attitude toward women as measured by the OSW.

In recent years, with the advent of such factors as "Women's Lib" and the Equal Rights Amendment, the perceived role of women in our society has changed. Concurrent with the change in perceived roles of women there has been a change in individual attitudes toward women. For example, women are becoming more accepted for positions that in the past have been reserved exclusively for men and are also being considered for eligibility for the draft if the selective service system is reactivated.

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Purposes and Hypotheses of Study

The purposes of this study were (1) to examine the attitudes toward women of a group of male and female college students enrolled in various fields of study by use of the OSW and (2) to study the relationship of attitudes toward women by the students to the level of authoritarianism they exhibited as measured by the California F-Scale.

Five primary null hypotheses were developed as a primary guide in carrying out the study. These hypotheses were as follows:

I. There will be no significant difference between male and female college students in their attitudes toward women as measured by the OSW.

II. There will be no significant difference between lower division (freshmen and sophomores) and upper division (juniors and seniors) in their attitudes toward women as measured by the OSW.

III. There will be no significant difference between male subjects enrolled in various college majors and attitudes toward women as measured by the OSW.

IV. There will be no significant difference between female subjects enrolled in various college majors and attitudes toward women as measured by the OSW.

V. There will be no significant relationship between attitudes toward women and exhibited levels of authoritarianism as measured by the OSW and the California F-Scale.

Methodology

Following is a description of the methodology employed in the study. This section contains a description of the instrumentation, subjects and procedures used in testing.

Instrumentation

The OSW (Shaw and Wright, 1967) was chosen as the primary measure for attitudes toward women. The OSW consists of 20 items divided into four sub-scales that individuals can respond to on a five-point, Likert-type scale. The scale is weighted as follows:

1. Not at all true of myself (or my beliefs)
2. Slightly true of myself (or my beliefs)
3. About halfway true of myself (or my beliefs)
4. Mostly true of myself (or my beliefs)
5. Very true of myself (or my beliefs)

Following is a brief explanation of the four sub-scales and the items from the instrument encompassing each. Scores from the OSW were computed by adding the weighted value of responses on the Likert scale. Scores can range from 20 to 100 with a middle point of 60. Higher scores indicate a more negative attitude toward women.

Restrictive policies. Restrictive policies include those social policies which restrict women in various ways and keep them subordinate to men.

1. It goes against nature to have a woman as foreman or boss over men.
2. The man should "wear the pants" in the family.
3. Because men are strong and women are weak, it is only right that this be a man's world.
4. Although women play a part in many important jobs today, women's proper place is still in the home.
5. Despite the American ideal of equality of the sexes, there are certain jobs, like that of President of the United States, which are just too important to be held by a woman.

Alleged inferiority. This sub-scale refers to the supposed inferiority of women to men and includes the following five items.

1. Because of their inborn limitations, women have contributed but little to the discoveries and inventions of civilization.
2. Women seem to be inherently less capable than men of logical and scientific thinking.
3. Women have far less control over their emotions than do men.
4. Men are naturally more capable than women in financial matters.

5. It seems to be a law of nature that men are dominant and women are submissive.

Alleged narrowness. The items in the previous section assert women's inferiority in their abilities. The items from this sub-scale assert inferiority in the scope of their outlook. These items portray women as "self" pre-occupied and narrow in interest and in levels of judgment.

1. A major fault that women have is their personal vanity as shown by the exaggerated importance they attach to minute details of dress and grooming.
2. Women naturally tend to be self-centered, so that for them to be loved is a greater need than to love someone else.
3. Even with the right to vote and hold office, few women participate actively in politics; thus, it is clear that the average woman's political interests are inherently narrower than those of men.
4. It must be admitted that the average woman has a rather narrow sense of justice.

Alleged offensiveness. The items from this sub-scale portray women in their efforts to subordinate men.

1. Constant petting and cuddling have the same cheapening effect on a woman as that produced on merchandise which through repeated handling has become faded and rumpled.
2. No matter how they are treated, the majority of women seem to be bossy and nagging.
3. Women are much more prone to engage in jabbering, chattering talk than are men.
4. There is hardly anything more revolting than seeing a woman dress, act and cuss like a man.
5. Although there are exceptions, nagging and domineering traits, however subtle, seem to be pretty typical among women.
6. The majority of women are gold-diggers when they get the chance.

The California F-Scale, Forms 45 and 40, developed by Adorno, et al. (1950) to measure prejudices and anti-democratic tendencies, was used to obtain a measure of authoritarianism. The 28-item instrument relates to opinions regarding a number of social groups and issues about which some people agree and others disagree. Subjects respond to each item on a six-point scale ranging from strong opposition (Disagree) to strong support (Agree). Possible scores on the instrument range from 28 to 196 with a score of 112 being the mid-point.

Subjects and Procedures

The subjects for the study consisted of 418 students enrolled in various major fields of study at Tennessee Technological University. A representative cross section of students in various majors, by sex and level of enrollment was obtained. Table 1 shows a distribution by major area of study and sex. Within each major, approximately half of the subjects were freshmen or sophomores (lower division) and half were juniors and seniors (upper division). The total number of lower and upper division students were, respectively, 207 and 211.

Table 1
Number of Subjects by Major and Sex

Major	Female	Male
Education	77	31
Engineering	2	54
Science and Mathematics	34	36
Business	35	55
Social Sciences	30	36
Humanities and English	20	8
TOTAL	198	220

Subjects in each class were asked to participate in the study on a voluntary basis. Each subject completed the OSW and then the F-Scale. In addition, information on the sex, level of enrollment, and major of each subject was collected. Analysis of variance was used to determine differences in attitudes toward women among the various groups and correlational analyses were used to determine the relationships between

attitudes toward women and levels of authoritarianism,

Results and Discussion

Hypothesis I was tested by comparing the means for males and females on the four subtests and total test of the OSW. Table 2 shows the means and standard deviations of the scores made by the 220 males and 198 females on each of the four subtests and the total score from the OSW. Also shown in the table is the t-value. All differences were significant

Table 2

Means, Standard Deviations and t-values for Males and Females
for Subtest and Total Score from the OSW

Subtest	Sex	$\bar{X}$	SD	t*
Restrictive Policies	Males	13.2	5.07	7.56
	Females	9.6	4.54	
Alleged Inferiority	Males	11.7	4.30	6.65
	Females	9.1	3.71	
Alleged Narrowness	Males	8.9	3.66	6.85
	Females	6.7	2.88	
Alleged Offensiveness	Males	16.4	5.36	7.96
	Females	12.5	4.48	
Total OSW	Males	50.0	15.82	8.31
	Females	38.1	13.23	

*All values $p \leq .0001$.

beyond the .0001 level. Therefore, Hypothesis I of no significant difference between males and females in their attitudes toward women was rejected. These results were similar to those of Nadler and Morrow (1959).

Hypothesis II was tested by comparing mean scores for lower division and upper division students on the four subtests and total score of the OSW. In general mean scores for the upper division subjects were slightly

lower than for lower division students (Table 3). This indicated that older, more mature students had a more positive attitude toward the role of women. Application of the t-test indicated that there were no significant differences between the groups. Therefore, Hypothesis II of no significant difference between levels in attitudes toward women was accepted.

Table 3

Means, Standard Deviations and t-values for Lower and Upper Division Subjects for Subtest and Total Score from the OSW

Subtest	Division	$\bar{X}$	SD	t
Restrictive Policies	Lower	11.8	5.17	1.10
	Upper	11.2	5.12	
Alleged Inferiority	Lower	10.7	4.11	1.11
	Upper	10.2	4.36	
Alleged Narrowness	Lower	8.1	3.46	1.45
	Upper	7.6	3.51	
Alleged Offensiveness	Lower	14.7	4.89	0.57
	Upper	14.4	5.71	
Total OSW	Lower	45.3	14.94	1.30
	Upper	43.3	16.58	

Hypothesis III and IV were tested by comparing the mean score on each of the four sub-scales and the total score of the OSW by major area of study. Table 4 shows the means and standard deviation by sex for each of the four subtests scores and the total score. Application of the analysis of variance technique indicated that there were significant differences between major areas for the males on all variables except the subtest of Alleged Inferiority. In this case, there was no significant difference. Application of the analysis of variance technique to the female group

Table 4

Means and Standard Deviations for the Four Sub-scale Scores and
Total Score of the OSW by Major

Major	Restrictive Policies				Alleged Inferiority				Alleged Narrowness				Alleged Offensiveness				Total			
	M		F		M		F		M		F		M		F		M		F	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Education	12.2	4.5	9.0	3.9	10.6	3.8	9.1	3.6	9.1	3.5	6.5	2.7	14.9	3.6	11.7	4.4	46.3	13.4	36.6	11.6
Engineering	13.7	4.9	6.5	2.1	12.3	4.5	6.5	2.1	9.4	3.7	5.0	1.4	16.8	5.3	11.0	7.1	52.1	16.2	29.0	12.7
Science	11.4	4.7	8.9	4.3	10.8	3.6	8.5	3.2	7.6	3.0	6.7	3.5	14.3	4.5	12.7	4.9	44.3	12.6	37.2	13.9
Business	14.6	5.2	11.2	5.0	12.6	4.2	9.7	4.3	9.1	3.7	8.0	3.0	18.1	5.9	14.3	4.0	53.8	15.6	43.5	14.4
Social Science	13.6	5.5	10.3	5.4	12.2	4.8	9.7	3.8	9.5	4.1	6.2	2.3	17.1	5.5	12.4	4.3	52.4	17.5	38.5	14.2
Humanities	9.8	4.3	9.5	4.7	8.5	4.2	8.2	3.9	6.8	3.5	6.0	2.4	13.3	6.5	12.3	4.5	38.3	17.7	36.0	13.4
TOTAL	13.2	5.0	9.6	4.5	11.7	4.3	9.1	3.7	8.9	3.7	6.7	2.9	16.4	5.4	12.5	4.5	50.0	15.8	38.1	13.2

indicated that there were no significant differences on any subtest of the total score from the OSW. An examination of the data by lower and upper division status indicated similar results (these data have been omitted). In general, the differences in mean scores occurred between the non-abstract practical and abstract majors. Male students majoring in abstract areas such as the humanities perceived women in a more positive manner than males in the sciences and engineering. Hypothesis III of no significant difference between major in attitudes toward women by men was rejected. Hypothesis IV of no significant difference between major in attitudes toward women by females was accepted.

Hypothesis V was tested by computing correlational coefficients between the various subtest scores and total score from the OSW with scores from the F-scale. Table 5 shows the means, standard deviations and intercorrelations of scores from the subtests of the OSW and F-scale for the total sample of 418 subjects. Also shown is the correlation of scores with sex (where sex was coded as 1 = male and 2 = female). All correlations were significant beyond the .0001 level with the exception of sex and F-scale score. The intercorrelations of the subtests of the OSW were similar to those reported by Nadler and Morrow (1959). Correlations of the OSW subtests and total score with the F-scale scores were significant; however, the magnitudes were considerably less than that previously reported (Nadler and Morrow, 1959). As a further examination of the hypothesis, a comparison was made of F-scale scores between the sexes. Table 6 shows the means and standard deviations of the F-scale scores by sex and by major. There were no significant differences in scores achieved between subjects among the six major areas and by division (Ayers and Rohr, 1977). However, students majoring in non-abstract practical areas such as engineering

Table 5

Means, Standard Deviations and Intercorrelations of Scores
From Sub-scales of the OSW and F-Scale (N=418)^a

Scales	$\bar{X}$	SD	Correlation Coefficients (r)						
			1	2	3	4	5	6	7
1. Sex ^b	1.46	0.51	1.000	-.329	-.292	-.298	-.345	-.356	-.064
2. Restrictive Policies	11.46	5.14		1.000	.755	.625	.665	.892	.219
3. Alleged Inferiority	10.46	4.23			1.000	.635	.615	.859	.170
4. Alleged Narrowness	7.83	3.49				1.000	.649	.804	.185
5. Alleged Offensiveness	14.50	5.32					1.000	.835	.201
6. Total OSW	44.26	15.80						1.000	.228
7. F-scale	116.03	24.15							1.000

^aAll correlations significant beyond the .001 level except 1 with 7.

^bSex coded such that 1 = Male and 2 = Female.

Table 6

Means, Standard Deviations and t-values for Scores
From the California F-Scale by Sex and Major

Major	Sex	$\bar{X}$	SD	t
Education	Males	112.4	28.52	0.18
	Females	111.3	27.18	
Engineering	Males	128.2	36.3	0.78
	Females	107.5	37.5	
Science	Males	107.3	19.4	0.39
	Females	109.5	27.5	
Business	Males	123.6	26.2	1.25
	Females	109.5	20.9	
Social Science	Males	111.0	25.8	0.39
	Females	113.2	19.1	
Humanities	Males	97.3	29.3	0.27
	Females	100.4	20.2	
Total	Males	119.4	27.7	3.78*
	Females	111.2	24.7	

*p < .001.

exhibited a relatively higher degree of authoritarianism. There were no significant differences in F-scale scores among the sexes for each major area of study. However, there was a significant difference for the total groups. Therefore, Hypothesis V of no relationship between scores from the OSW and the F-scale was rejected.

Conclusions

In general, the results of the study support the findings of Nadler and Morrow (1959) that was performed two decades ago, based on the results of the present study, it is felt that the following conclusions were warranted.

Male college students perceived women as being more subordinate than do female college students. This was in evidence on the four subtests and the total test score from the OSW. The levels of perceived subordination were similar to those obtained in the study noted above.

The levels of perceived subordination of women are similar among lower division (freshmen and sophomores) and upper division (juniors and seniors) students. Upper division students appeared to place women in a less subordinate role than lower division students. However, the differences were not significant.

Female students, regardless of major, perceived women in the same manner. Conversely, there was wide variation among males' perceived role of women. Male students majoring in abstract areas had a more positive attitude toward women than did students majoring in non-abstract, practical areas such as engineering and the sciences.

There was a definite relationship between attitudes toward women and exhibited levels of authoritarianism. In general, individuals who were more authoritarian in their beliefs perceived women in a more subordinate role.

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